

Shark Injector

Instructions for Upgrading & Restoring

1996-2000 BMW



Due to the age of the vehicle's electronic components and the technical nature of flash programming, we will not be held responsible for any damage arising from your use of the Shark Injector.

Please read and understand the instructions below. Contact your dealer if you have any questions on the procedures. Do not continue the installation if you are unsure of the process.

Pre-Install Notes

If the Shark Injector has any trouble during the installation, the red LED will flash an error code – refer to page 4 for a list of codes and further explanation.

The process for an Upgrade and Restore is the same. Press the appropriate button for each.

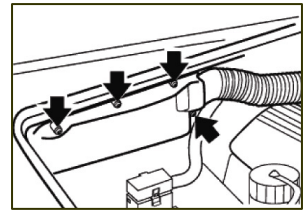
A battery charger is **mandatory**. The charger must be capable of providing a constant 10-20a charge.

Read through all notes and steps of these instructions before programming! Contact your dealer with any questions.

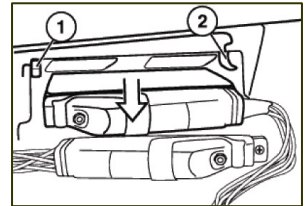
E36 With Automatic Transmission

Before you begin programming your E36, you must temporarily disconnect your transmission computer (a.k.a. EGS) when directed in the instructions. You may find it easier to temporarily unbolt the air pump directly in front of the firewall door and flex the pipes and wires out of the way. But do not disconnect the harness connector from the air pump.

- The EGS control unit is located in the engine compartment behind a door on the passenger-side firewall. Raise the hood, and remove the foam insulator from the firewall compartment. Then remove the Philips screws holding the cover over the compartment (see arrows on the right).



- There will be two control units inside and they look identical from this angle. Try removing the top unit first. Press the front (connector end) down to release it from the spring retainers (1 and 2).

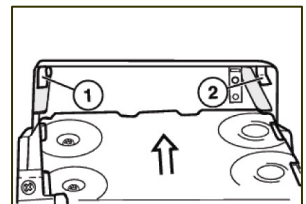


Pull the EGS Control Unit forward and down. You'll know if you pulled the correct unit because it will be a Bosch control unit (the engine control unit is made by Siemens).

- Disconnect the harness from the EGS control unit by swinging the spring clip (2) forward and out, and removing the plug (1) by swinging the "clip end" away from the control unit body.



- When instructed, reconnect the EGS control unit harness plug and slide the EGS unit back into the mounting rails at an angle. Once fully seated tilt the connector end upward to engage the spring retainers (1 and 2).



Step-By-Step Installation

1. Locate the round 20-pin diagnostic port in the engine compartment. In most cases it's mounted on the passenger side strut tower.
2. If your vehicle is an E36 with automatic transmission, you must disconnect the EGS transmission computer as described on the previous page. ***If you have an auto trans, you must complete this step before to continuing!!***
3. To ensure a constant voltage for programming, connect a high quality battery charger to either the battery itself or the jumper posts in the engine bay. Turn the battery charger on to a minimum 10 amp setting (*20 amp setting if your vehicle is equipped with Daytime Running Lights, Angel Eyes, or any other accessory powered on with the key*).



NOTE: "trickle chargers" or chargers that shut off after a period of time are not acceptable. The charger must be on and provide a continuous 10+amp charge throughout the installation!

Failure to maintain 12.5v throughout the procedure may result in an inoperable vehicle, where the only solution would be the physical replacement of control modules ***at owner's expense***. Voltage below 12.5v can cause permanent failure. **Owners should evaluate the age and condition of the battery before proceeding;**

4. With the key removed, uncap the diagnostic port and insert the Shark Injector into the port by aligning the center index pin ("Pac-Man") and rotating the locking collar so that the entire device lowers and locks into position.
5. Ensure that all electrical loads are off (radio, climate control, lights, etc). Turn the ignition switch to the ON position but do not start the car (Check Engine lamp must light up). Exit the vehicle at this time. Close all of the doors but leave the hood open and lower the driver and passenger windows.
6. The green LED on the Shark Injector should now be illuminated **SOLID** green.
7. Press the appropriate button on the Shark Injector: UPGRADE to install the performance software; RESTORE to return the car back to stock software.
8. Within 3 seconds, the green LED will begin to **PULSATE** indicating the transfer of programming data between the vehicle's ECU and the Shark Injector. Note that the pulsating LED may be faint or very fast and you will need to look closely to confirm.
9. In approximately 1½ to 6½ minutes, the red LED will turn on **SOLID** while the green LED continues to **PULSATE** indicating that the Shark Injector is entering the programming phase.
10. In approximately another 1 to 3½ minutes, the red LED will turn off, while the green LED will continue to **PULSATE**, this is the final check phase of reprogramming your vehicle.
11. Finally, in about 1 to 3½ minutes, the green LED will stop pulsating and illuminate **SOLID**, this is your indication that an Upgrade has been successful. If you see a solid green and solid red LED, this indicates that a Restore to stock was successful.
12. Turn the ignition off (you may open the door for better access).
13. If your vehicle is an E36 with automatic transmission, reconnect the transmission computer that was disconnected in Step #2 above.
14. At this point, some people like to have an assistant watching the Shark Injector during the next two steps as things happen both subtly and quickly!

15. Close the door and ensure all electrical loads are off. Turn the ignition on but do not start the car (Check Engine lamp must light up).
16. The green LED on the Shark Injector will begin to **PULSATE** almost immediately indicating the transfer of some final information to the vehicle's ECU. This phase only lasts about 5-15 seconds before the green LED illuminates **SOLID** green. In other words, if you are slow getting from the ignition switch to the Shark Injector you may miss this short-lived event. Once the green LED is illuminated **SOLID** green the programming is complete.
17. Turn the ignition completely off.
18. Wait at least 30 seconds, then remove the Shark Injector and recap the port. Turn off and remove the battery charger.
19. Last step! Start and enjoy your newly Sharked vehicle!!

Post-Install Notes

After programming the Shark Injector will clear fault codes and adaption values stored in the DME. If a CEL light appears after the Shark Injector install, it is most-likely a pre-existing condition. You should have the DME scanned for fault codes and take appropriate action.

Shark Injector Error Codes

If the Shark Injector has any trouble installing, the red LED will flash a 3-digit code at a pace of 0.5 sec per flash with a 2 second pause between digits. Write down the code(s) and refer to the list below. Call your Shark dealer immediately.

The following codes indicate that your vehicle is now drivable, but could not be successfully programmed.

- 123 **Vehicle voltage too low** – You must ensure at least 12.5v for programming! Your battery charger is not charging at 10amps or higher or it may have shut off or reduced its output.
- 124 **Programming voltage too low** – You must ensure at least 12.5v for programming! Your battery charger is not charging at 10amps or higher or it may have shut off or reduced its output.
- 125 **Programming voltage needed, not present** – Contact your Shark Injector dealer.
- 126 **Bad Key Index** – Contact your Shark Injector dealer.
- 128 **Login Authentication Failed** – Communication to the ECU is blocked. Either another module in the car is preventing communication or a previous software tuner has blocked access to the ECU.
- 142 **DME Hardware Unknown** – Your DME hardware is different from any one we have seen to date.
- 143 **DME Contents not stock** – Your DME is not stock! It may already have performance software installed. The Shark Injector can only install over a stock DME.
- 147 **DME Software Unknown** – Your stock version of software is new or unusual and we haven't seen it before. Most likely your dealer has installed a new version of BMW software. Contact your Shark Injector dealer for instructions on updating your Shark Injector.
- 152 **Injector Stock Storage failure** – Return Shark Injector for analysis.
- 153 **Injector not Prepared** – Return Shark Injector for analysis.
- 162 **Vehicle Mismatch** – Your Shark Injector may have been used on a different BMW. The unit will only work on one car at a time. Contact your Shark Injector dealer for more info.
- 163 **Bad User Request** – User requested an UPGRADE when already upgraded, or a RESTORE when already restored to stock.
- 257 **Blocking ECU Detected** – Another module or computer is preventing communication between the Shark Injector and the DME – such as an automatic transmission computer or SMG module.

The following codes indicate that your vehicle could not be programmed and that its drivability is in question. Note the install step when the failure occurred, the state of the red and green LEDs, and the fault code from the red LED.

- 127 Signature Check Failed
- 132 DME Not Responding
- 134 DME Message Checksum Error
- 135 Protocol Error Busy
- 136 Protocol Error Rejected
- 137 Protocol Error Parameter
- 138 Protocol Error Function
- 139 DME reply is not known
- 145 DME Final Verify failure
- 146 DME Erase failure

Shark Injector FAQ

How does the Shark Injector work?

The Shark Injector's software replaces portions of the stock BMW software. When the button is pressed, the Injector reads the stock software and stores it for later retrieval if necessary. It also records the VIN and other required information. Then it programs the DME with its new tuned Shark files. After programming, the Shark Injector verifies that the transfer of data was completed.

What's the USB port for?

The USB port is part of a feature planned for the future. At this time, the USB port is only used for initial programming.

What octane must be used?

The minimum octane is 91. However, on certain models the Shark Injector is offered in a higher octane setting of 93. If you selected the 93 octane version you must ensure nothing less than 93 is used.

Do I really need a battery charger?

Yes! The installation of the Shark Injector requires power from the battery. It needs more power than the battery can provide on its own. This is why a battery charger is necessary. You will not be able to install the Shark Injector without the charger. The Shark checks voltage several times and will stop programming if voltage is too low.

Is it possible to "share" the Shark Injector?

No. Because the Shark Injector needs information that is specific to your car, it cannot be used on another car. The Shark Injector will give Error Code 162 if it has been previously installed on another vehicle.

A note about eBay and buying from classifieds: the Shark Injector is designed to be used on only one car at a time. Once it is used on a car it cannot be used on a different car. The Shark Injector can be reset and reused but only if it was first uninstalled from the first car. A small fee will apply to reset a used Shark Injector.

Can the Shark Injector damage my ECU?

No. The procedure that the Shark Injector follows is not much different than the one BMW uses to update your car. As long as you follow and understand the instructions the procedure is painless and transparent. In the end, this is software that is being loaded into the car; the hardware remains the same.

There is a limit to how many times a BMW computer can be programmed. Once the limit is reached it will not accept any more files and will need to be replaced or reset. We advise keeping unnecessary flashes to a minimum.

What do I do when I have to take the car to the dealer?

If your car needs to visit the dealer you should advise them that performance software is installed. If they offer you a new version of BMW software you should uninstall the Shark Injector first. New software is not always necessary and you can always refuse it.

What do I do when I have a state inspection?

In most cases, you don't have to remove the Shark Injector to pass state inspections. In rare cases, the state requires performance upgrades to be state-certified and please be aware that the Shark Injector is not certified with any US state or federal agency. Check your local laws for more information. "Race" or "no-cat" software is not legal for any street-driven vehicle and Shark Injectors with these software tunes are not designed to pass any emissions testing or inspection.

Is it legal in California?

These products are not CARB-certified or legal for sale or use in the state of California on any pollution-controlled motor vehicles.

What should I do when my Check Engine light or Service Engine light comes on?

The Shark Injector does not block or impede OBD access. You can read and reset codes just like it was stock.